While the invention has been particularly shown and described with reference to the preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made without departing from the spirit and scope of the invention.

What is claimed is:

1. A method for realizing a high voltage comparator comprising:

providing a voltage to current conversion stage branch for the input signal, a voltage to current conversion stage stage branch for the reference signal, a reference signal providing circuit; and a current comparator block, generating an output signal;

transforming static high supply voltage levels into static currents;

transforming a high-voltage input signal into a proportional current signal;

transforming a high-voltage reference into a proportional current reference;

combining said static currents and proportional current signals into resulting current input signals;

feeding said resulting current input signals into a current comparator circuit operating in the low-voltage domain;

comparing said current input signals within said current comparator circuit; and

generating a low voltage output signal representing the result of said high input voltage comparison.

2. The method according to claim **1** wherein said step of transforming a static high voltage supply level into a static current is implemented using a resistor.

3. The method according to claim **1** wherein said step of transforming a static high voltage supply level into a static current is implemented using an equivalent resistor circuit built of semiconductor circuits.

4. The method according to claim **1** wherein said step of transforming a high-voltage input signal into a proportional current signal is implemented using a voltage to current conversion stage.

5. The method according to claim **1** wherein in said step of transforming a high-voltage reference into a proportional current reference uses a voltage proportional to the high voltage supply.

6. The method according to claim **5** wherein said voltage proportional to the high voltage supply is realized with a resistive divider consisting of two resistors.

7. The method according to claim **5** wherein said voltage proportional to the high voltage supply is realized with an equivalent resistive divider built of semiconductor circuits.

8. The method according to claim **1** wherein in said step of transforming a high-voltage reference into a proportional current reference uses an absolute reference voltage.

9. The method according to claim **8** wherein in said absolute reference voltage is implemented with the help of a separate internal semiconductor reference circuit.

10. The method according to claim **4** wherein said voltage to current conversion stage is implemented using a PMOS transistor, configured as a source follower working together with an NMOS transistor, which is employed as decoupling element for the low voltage domain.

11. The method according to claim **4** wherein said gain stage is implemented using a PMOS transistor with extended drain, configured as a source follower working together with an NMOS transistor, which is employed as decoupling element for the low voltage domain.

12. The method according to claim **4** wherein said gain stage is implemented using a PMOS transistor, configured as a source follower working together with an NMOS transistor with extended drain, which is employed as decoupling element for the low voltage domain.

13. The method according to claim **4** wherein said gain stage is implemented using a PMOS transistor with extended drain, configured as a source follower working together with an NMOS transistor with extended drain, which is employed as decoupling element for the low voltage domain.

14. A circuit, capable of comparing higher voltage signals,

comprising:

means for transforming a static high voltage supply level into static currents;

means for transforming a high voltage input signal into a proportional current signal;

means for transforming a high voltage reference input into a proportional current reference;

means for combining said static current and said proportional current signal into a resulting current input signal;

means for combining said static current and said reference current signal into a resulting reference current input;

means for feeding said resulting current input signal and said reference current into a current comparison circuit;

means for comparing said current input signal and said reference current, designated as current comparator; and

means for generating a low voltage output signal describing the relation of said high voltage input signal and reference.

15. The circuit according to claim **14** wherein said means for transforming a static high voltage supply level into a static current is a resistor.

16. The circuit according to claim **14** wherein said means for transforming a static high voltage supply level into a static current is an equivalent resistor circuit built of semiconductor circuits.

17. The circuit according to claim **14** wherein said means for transforming a high voltage reference input into a proportional current reference uses a voltage proportional to the high voltage supply.

18. The circuit according to claim **17** wherein said voltage proportional to the high voltage supply is realized with a resistive divider consisting of two resistors.

19. The circuit according to claim **17** wherein said voltage proportional to the high voltage supply is realized with an equivalent resistive divider circuit built of semiconductor circuits.

20. The circuit according to claim **14** wherein said means for transforming a high-voltage reference into a proportional current reference uses an absolute reference voltage.

21. The circuit according to claim **20** wherein said absolute reference voltage is implemented with the help of a separate internal semiconductor reference circuit.

22. The circuit according to claim **14** manufactured with the help of discrete active and passive components.

23. The circuit according to claim **14** manufactured with the help of discrete components and integrated circuits.

24. The circuit according to claim **14** manufactured in integrated circuit technology.

25. The circuit according to claim **14** manufactured in monolithic integrated circuit technology.

26. The circuit according to claim **14** manufactured in monolithic integrated CMOS technology.

27. The circuit according to claim **14** manufactured in monolithic integrated CMOS circuit technology with additional discrete PMOS and NMOS transistors.

28. The circuit according to claim **27** manufactured in monolithic integrated CMOS circuit technology with additional discrete PMOS and NMOS transistors with extended drain technology.

29. The circuit according to claim **14** manufactured in monolithic integrated CMOS technology with additional PMOS and NMOS transistors, assembled in Chip-On-Chip technology.

30. The circuit according to claim **29** manufactured in monolithic integrated CMOS technology with additional PMOS and NMOS transistors with extended drain technology, assembled in Chip-On-Chip technology.

31. The circuit according to claim **14** wherein said means for comparing said current input signal and said reference current, designated as current comparator, is implemented in low voltage CMOS technology.